SKOPE Backbar Chillers

BB380/580/780r

REMOTE models

Model: BB380r-2SW

User Manual

MAN0406 Rev. 2.0 Feb. 2008 edition

SKOPE® Refrigeration

SKOPE Backbar Remote Chiller
Models: BB380r-2, BB580r-3, BB780r-4
User Manual

MAN0406
Rev. 2.0 Feb. 2008 edition.

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SPECIFICATIONS

Cabinet and Refrigeration Unit

Cabinet Construction			
Finish:	Stainless steel or powdercoated galvanised steel		
Insulation:	50mm thick, polyurethane foam Cyclo-iso Pentane blowing agent: C_5H_{10}/C_5H_{12}		
Dimensions			
Models:	**BB380r-2**	**BB580r-3**	**BB780r-4**
Doors:	2 Door	3 Door	4 Door
Height (excluding castors or legs):	920mm	920mm	920mm
Width:	1355mm	1915mm	2475mm
Depth (Solid Back):	590 - 600mm (with bench top)		
Depth (Pass-Thru):	655 - 670mm (with bench top)		
Floor area:	$0.81m^2$	$1.14m^2$	$1.48m^2$
Internal volume:	380 litres	580 litres	780 litres
Electrical			
Power supply:	220-240 V a.c. 50 Hz, single phase power supply		
Run Amps:	See rating label inside cabinet		
Interior light:	1 x 36 Watt	1 x 58 Watt	1 x 58 Watt
Refrigeration Unit			
Product temp:	+1°C to +4°C		
Rated ambient:	32°C at 65% RH		
Evap. capacity	480 Watts	615 Watts	850 Watts
Evaporator:	CLS9902R		
TX valve - R134a	VAL7923		
TX valve - R404A	VAL9641		
TX valve - R22	VAL9643		
Orifice:	'0X' REF9761	'00' REF7596	'00' REF7596
Refrigeration tail Ø:	Liquid line: Ø1/4" Suction line: Ø3/8"		
Drain diameter:	19mm O.D.		

Table 1: Cabinet and Refrigeration Unit Specifications

INSTALLATION

Safety Information

When using any electrical appliance, safety precautions should always be observed. Read these instructions carefully and retain for future reference.

- When used by, or near, young children or infirm persons, close supervision is necessary. Young children should be supervised to ensure that they do not play with the appliance.
- Do **NOT** use this appliance for other than its intended use.
- Do **NOT** cover the grilles or block the entry or exhaust of airflow by placing objects up against the refrigeration unit.
- Do **NOT** probe any opening.
- Do **NOT** overload the power supply. See the rating label inside the cabinet for power supply and current draw.
- Only use this appliance with voltage specified on the rating label.
- Ensure adequate ventilation of the SKOPE refrigeration unit.
- Be careful not to touch moving parts and hot surfaces.
- Regulations require that all electrical work be carried out by authorised persons. For your own safety, and that of others, ensure this is done.
- If the supply cord becomes damaged, it must be replaced by a SKOPE authorised service agent, or similarly qualified person, in order to avoid a hazard.
- If the refrigeration unit is required to be installed or removed from the cabinet, ensure all necessary safety precautions are observed.
- This chiller is not designed to be stable in motion. Exercise caution when moving or transporting this chiller.

Caution:

Disconnect the cabinet from the mains power supply before attempting any cleaning or maintenance.

Installing the Cabinet

Adjustable Legs

If your SKOPE Backbar Chiller has been supplied with the optional adjustable height legs (packed with the cabinet), they should be fitted to the base of the cabinet before final positioning of the chiller.

Positioning

When positioning the chiller, avoid direct sunlight, and warm draughts etc. Adequate allowance should be made for door opening. The chiller must be positioned on a level surface for the doors to shut and seal correctly, and to prevent the condensate tray from overflowing.

Ventilation

For efficient operation of the chiller, it is essential that adequate ventilation be provided around the refrigeration unit. Maximum recommended operating ambient temperature is 32°C at 65% RH, and for tropical machines is 40°C at 75% RH.

Important:

Never store cardboard cartons or other items in front of the refrigeration unit. The ventilation slots in the unit front cover must be kept clear at all times.

Shelves

Remove all packaging material from the shelves. Clip the shelf support brackets into the shelf support strips, at the desired heights, and fit the shelves. The shelves may be positioned at different heights to suit various products. Always ensure that the shelf clips are securely engaged in each of the shelf support strips. The shelf support strips are marked ‘+’ for easy location of shelf clips.

Power Supply

The chiller is supplied with a 2.3m flexible power cord fitted with a 3-pin plug, which exits below the refrigeration unit front cover. Initial retrieval of the power cord is from inside the refrigeration unit compartment, behind the unit front cover. To retrieve the power cord:

1. Open the unit front cover, by undoing the bottom fixing screw and then lifting the cover up from the bottom and swing open.
2. Pull the power cord fully out from the unit compartment and remove the rubber band.
3. Push the unit end of the power cord into the grey plastic clip on the front of the unit base and close the plastic clip over the cord, ensuring it is held firmly in place (see Figure 1 below).
4. The power cord can now be run under the cabinet and plugged into a power supply socket.
5. Close the unit front cover, by lifting the cover up from the bottom and pushing firmly closed. Remember to refit the bottom fixing screw.

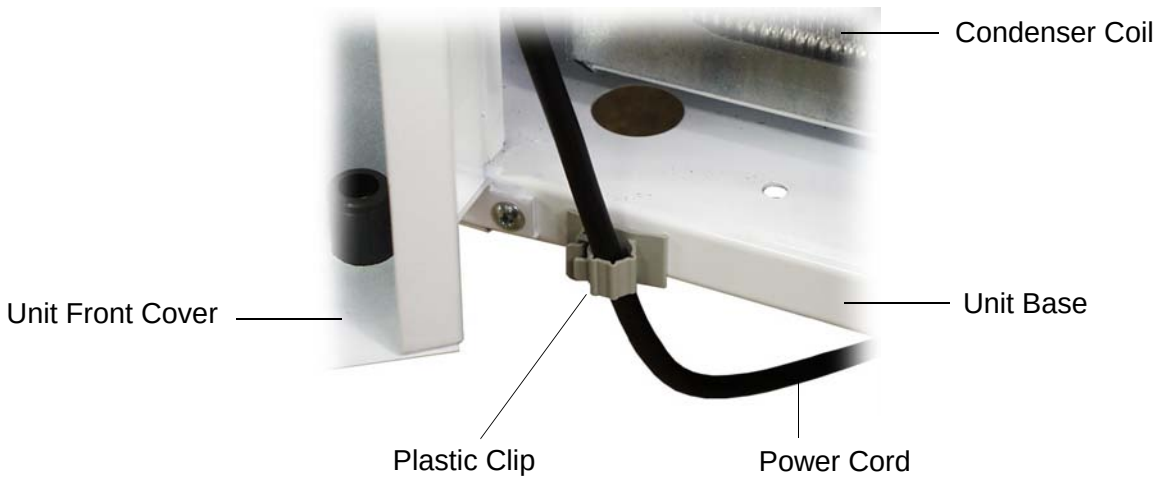


Figure 1: Power Cord Clip

Refrigeration System

Drain

A 500mm long, 19mm O.D. PVC drain hose is supplied. All drainage is to conform to local regulations, covering removal of condensate to waste water. Ensure drain is trapped with adequate fall. Venting the drain may be required for a restrictive run.

Refrigeration lines

A 1/4” liquid line, and 3/8” suction line are provided to attach pipe lines to. The suction lines must be insulated.

NOTE: The electronic controller supplied with the cabinet can switch a solenoid. No solenoid is supplied with the remote unit.

Refrigeration Practice

Installation must be performed by a refrigeration tradesperson, to an appropriate standard complying with all local regulations.

Performance depends on the overall installation (including condensing unit). Cabinet suitability must always be quantified for the application. The final responsibility for condensing unit performance and component selection rest with the installer. The installer must check matters such as:

- Heat load
- Refrigeration load
- Variable operating conditions (usage, ambient, humidity)
- Refrigeration pipe sizing
- Refrigeration pipe length (distance, elevation, pressure drop)
- Location and ventilation (cabinet and condensing unit)
- Drainage
- Power supply
- Unit is fully evacuated prior to charging
- All cabinet penetrations are sealed

Electrical

The cabinet is supplied with a 3-core 10 Amp flexible power cord and 3-pin plug. The cabinet lighting and centre pillar heater elements are protected by a 3 Amp fuse, located in the unit junction box.

If a solenoid is fitted and controlled by the electronic controller, the solenoid will need connected to the connector block inside the unit junction box.

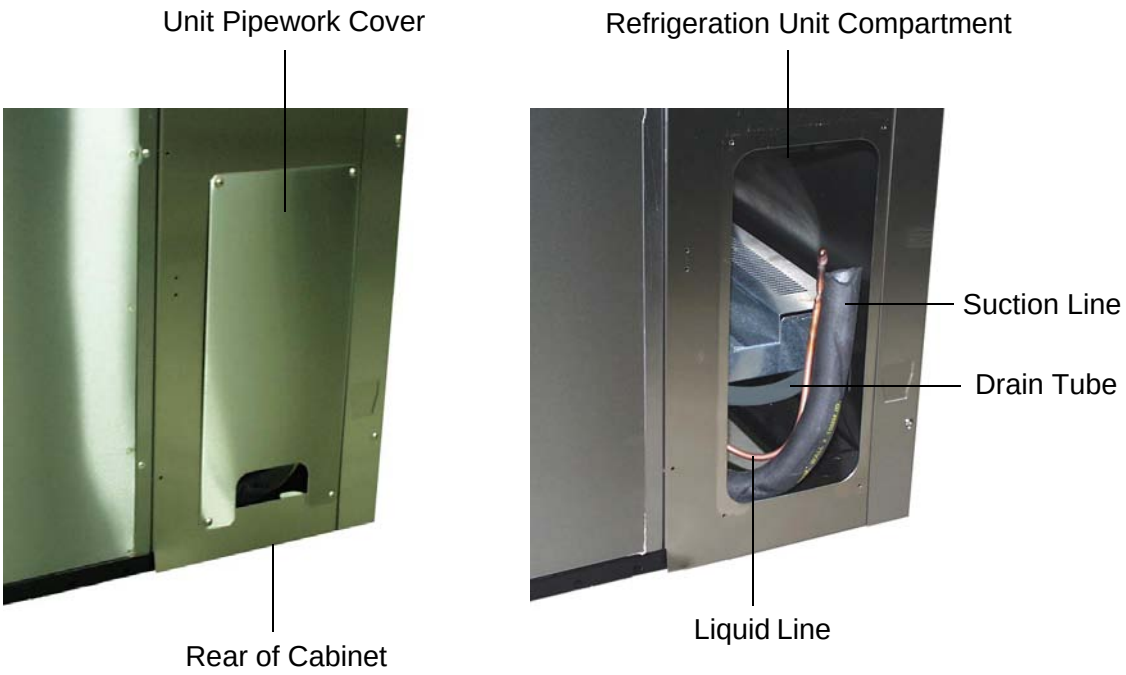


Figure 2: Refrigeration Pipework

Cabinet Operation

Plug the chiller into the power supply and check operation of the refrigeration unit, cabinet lighting and electronic controller. If the cabinet has been on its back, leave for 30 minutes before running.

Refrigeration Unit

The compressor and evaporator and condenser fans should all operate within two minutes from the time the cabinet is plugged in. This may be verified by listening for compressor switch on and checking for air movement out of the top ventilation slots in the refrigeration unit front cover. The compressor and condenser fans should switch off and on, depending on the cabinet temperature.

Cabinet Lighting

The light switch, located next to the electronic controller on the refrigeration unit front cover, activates the cabinet interior lighting and can be switched on or off as required. The fluorescent lights will require a period of time to stabilise following initial start up.

Electronic Controller

At initial start up, the electronic controller will display the current cabinet temperature (see pages 12-13 for controller display).

Loading Product

The chiller should be left running for 30 minutes before loading with product. When loading the cabinet shelves with product:

- Allow air space around all the product, to ensure even cooling and efficient operation of the chiller. Leave airspace above product loaded on the top shelf and leave a gap of approx. 50mm next to the return air grille between the cabinet interior and the refrigeration unit compartment.
- Do not allow products to overhang the front of the shelf as this could prevent the doors from shutting or cause glass breakage. .
- Do not exceed a maximum loading of 20kg per shelf.
- Remove some product if the shelves are flexing or bending.

Controller Display

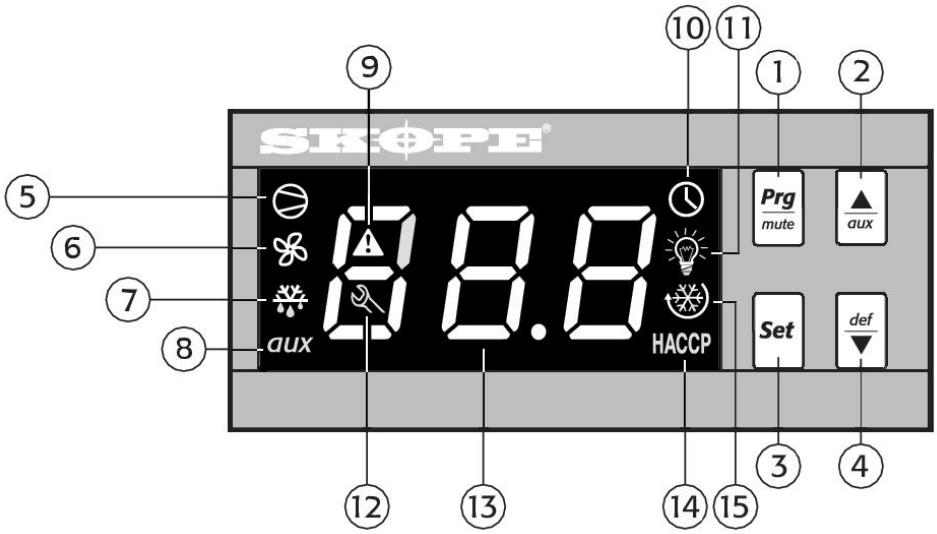


Figure 3: Controller Display

Keypad

ITEM	KEY	FUNCTION
1	Prg / mute	**Prg / mute:** To initiate programme sets, press for 5 seconds. Mutes the audible alarm (buzzer) and deactivates the alarm relay.
2	▲ / aux	**UP / aux:** To scroll settings **UP** (in programme mode).
3	Set	**Set:** If pressed for more than 2 seconds displays and / or enables changing the temperature setpoint (see page 10).
4	def / ▼	**DOWN / def:** To scroll settings **DOWN** (in programme mode).

Table 2: Keypad Functions

Icons

ITEM	ICON	FUNCTION
5		**COMPRESSOR:** ON when the compressor and condenser fan starts. Flashes when activation of the compressor is temporarily delayed.
6		**FAN:** n.a.
7		**DEFROST:** ON when the defrost is activated. Flashes when the activation of the defrost is temporarily delayed due to procedures in progress.
8	aux	**AUX:** n.a.
9		**ALARM:** Flashes in the event of alarms.
10		**CLOCK:** n.a.
11		**LIGHT:** n.a.
12		**SERVICE:** Flashes in the event of malfunctions.
13		**DISPLAY:** Shows the cabinet temperature.
14	HACCP	**HACCP:** n.a.
15		**CONTINUOUS CYCLE:** n.a.

Table 3: Icon Functions

Temperature Setpoint

The chiller temperature setpoint is factory set at 1.0°C. If necessary the standard setting can be adjusted between 0.5°C and 3.5°C (see Table 4 below).

SKOPE do not recommend that the setpoint be changed unless it is absolutely necessary, and then only by small increments at a time.

To View and Adjust the Temperature Setpoint:

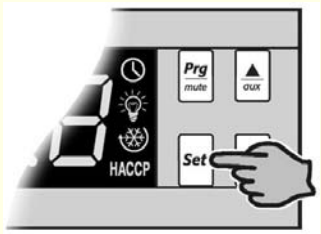
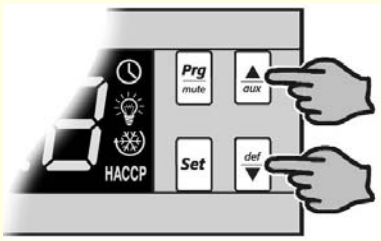
	1. To view the setpoint: press and hold the **SET** key for 2 seconds, until the setpoint value flashes.
	2. To adjust the setpoint: press either the **UP** or **DOWN** keys to display the required setpoint value.
	3. Press the **SET** key again to memorise the new setpoint value. If this is not done within 60 seconds, changes will be lost and you will need to repeat the above procedure.

Table 4: Viewing and Adjusting the Temperature Setpoint

Troubleshooting

Complaint	Possible Cause	Repair
1. Cabinet not operating and no controller display:	• Loss of power supply.	• Check mains power supply.
2. Cabinet lights not operating:	• Blown cabinet fuse. • Failed fluorescent tube. • Controller alarm.	• Requires technical repair by a SKOPE Authorised Service Agent. • Check fluorescent tubes. • Determine cause and eliminate (see pages 16-17).
3. Product is too warm and spoiling:	• Restricted cabinet airflow. • Temperature setpoint is too warm.	• Ensure product is not blocking airflow slots and there is air space around all the product. • Adjust setpoint (see page 14).

Table 5: Troubleshooting

Controller Alarms

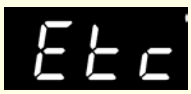
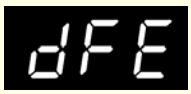
CODE	DISPLAY ICON	ALARM DESCRIPTION
	Flashing	Product HIGH temperature alarm
	Flashing	Product LOW temperature alarm
	Flashing	Ambient probe fault
	Flashing	Evaporator probe fault
	Flashing	Condenser probe fault
	None	Defrost over-time limit
	Flashing	Real-time clock fault
	Flashing	Controller E prom error
	Flashing	Controller E prom error
	None	Start defrost request
	None	End defrost request

Table 6: Controller Alarms

SERVICING

INITIAL ACTION	FINAL ACTION
1. Check the cabinet product loading to ensure ventilation slots are not blocked and that product does not overhang the shelves. 2. Ensure the cabinet is installed with good refrigeration unit ventilation. 3. Unplug cabinet from the power supply for 1 minute, then reconnect to power supply.	
Unplug cabinet from the power supply for 1 minute, then reconnect to power supply.	If alarm persists, contact SKOPE.
None	None

Lighting

Cabinet Interior Lights

The chiller is fitted with a full length horizontal interior light. The light houses one fluorescent tube. See Table 6 below for the correct tube size.

Model	Doors	Fluorescent Tube	Qty
BB380r-2	2 Door	30 Watt T8 fluorescent tube (Ø26mm x 915mm)	1
BB580r-3	3 Door	36 Watt T8 fluorescent tube (Ø26mm x 1219mm)	1
BB780r-4	4 Door	58 Watt T8 fluorescent tube (Ø26mm x 1524mm)	1

Table 7: Fluorescent Tube Sizes

To Replace the Fluorescent Tube:

1. Disconnect the cabinet from the mains power supply.
2. Remove the top light diffuser, by compressing the back section of the diffuser until it disengages from the aluminium housing and then push the diffuser back (see Figure 4 below).
3. The fluorescent tube can now be removed by revolving the tube until the pin position allows withdrawal.
4. When refitting the light diffuser, engage the back section into the housing, and then compress and snap the front section of diffuser back into place working along the full length of the light.

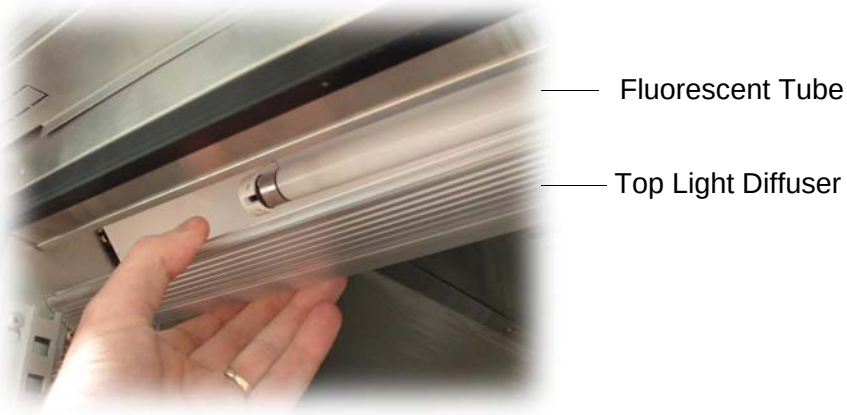


Figure 4: Replacing the Fluorescent Tube

Cleaning

When necessary, wipe both the interior and exterior of the cabinet with a damp cloth. Ensure the cabinet is disconnected from the mains power supply before cleaning the cabinet.

Caution:

Disconnect the cabinet from the mains power supply before attempting any cleaning or maintenance.

Contact Addresses

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Website: www.skope.com.au

Warranty

To receive a warranty for your purchased cabinet, you MUST register your cabinet within four weeks from the date of invoice either by:

- filling out the in-cabinet warranty form and posting or faxing it back to SKOPE
- or filling out the online warranty form.

Cabinets that are not registered within the four weeks are not eligible for a warranty.